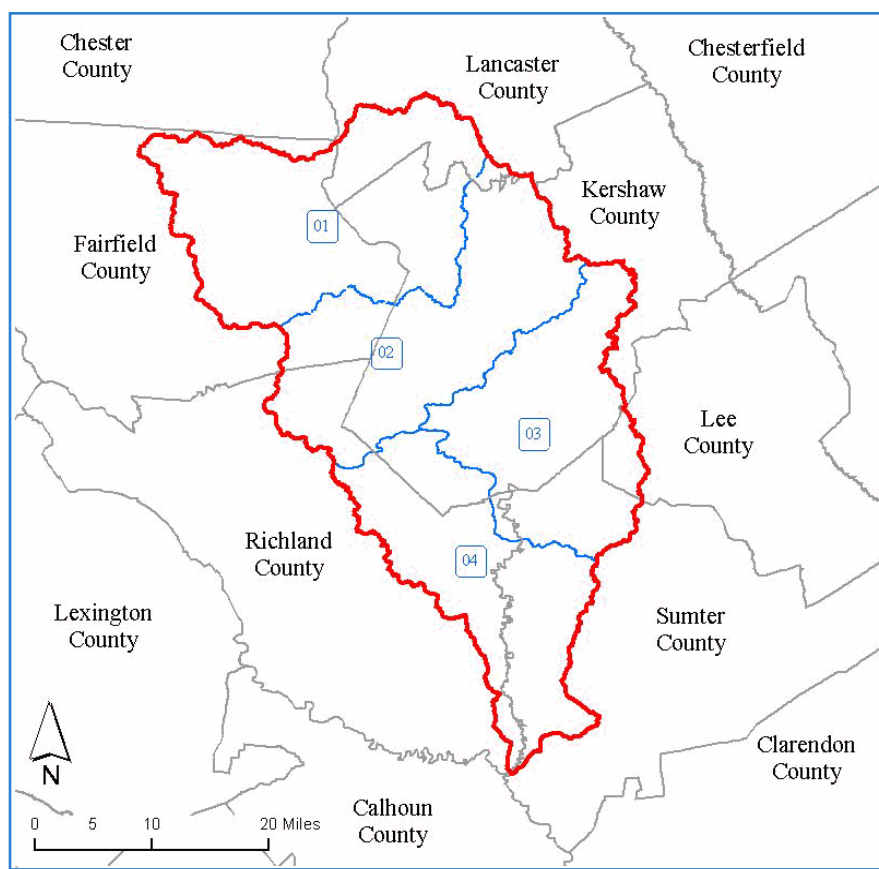
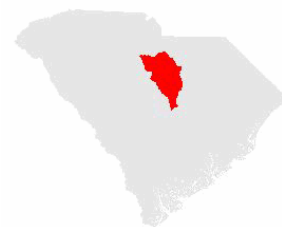


WATEREE Subbasin

August 31, 2007

An Assessment of the Wateree Subbasin

Hydrologic Unit Code (8 Digit): 03050104



WATERSHED (10-digit HUC)
(E.g., 01 = 0305010401)

- 01 Lake Wateree-Catawba River
- 02 Upper Wateree River
- 03 Middle Wateree River
- 04 Lower Wateree River

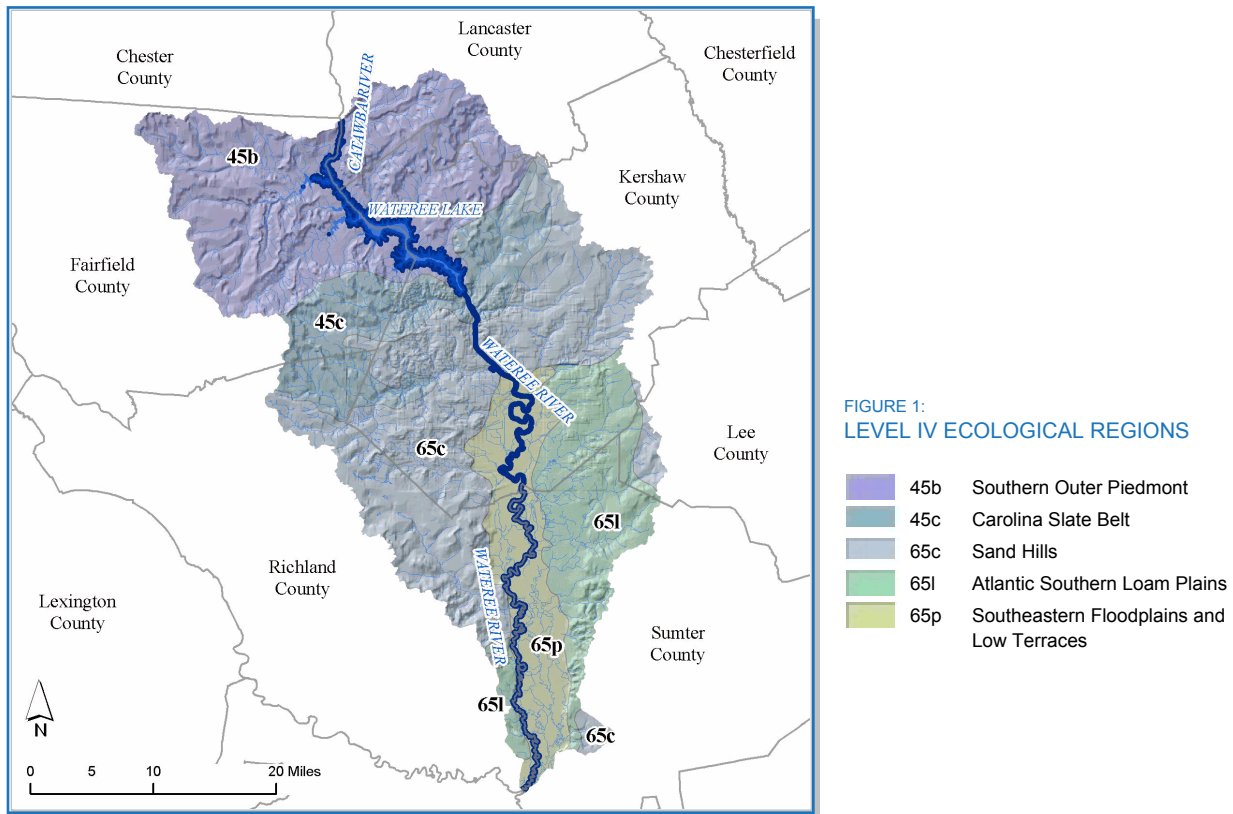


EXECUTIVE SUMMARY

Watershed Description

The Wateree River is a continuation of the Catawba River, which flows from the Blue Ridge Mountains in North Carolina. The name changes from Catawba to Wateree at Lake Wateree, which is formed by a hydroelectric dam in Kershaw County, South Carolina. The Wateree flows generally southward and joins the Congaree River to form the Santee River about 35 miles southeast of Columbia. The subbasin drains 1,255 square miles or 803,750 acres.

The subbasin lies in the Piedmont (45) Southeastern Plains (65) and Middle Atlantic Coastal Plain (63) ecoregions (Figure 1). A brief description of the Level III ecoregions in this watershed is available in this document's appendix. A more detailed description of the Level III and Level IV Common Resource Areas (Ecological Regions) is available online (See Griffith *et al.* 2002 in References section.).



EXECUTIVE SUMMARY

Land Use/Land Cover

The subbasin is largely rural. Columbia and Camden and the area along I-20 are the primary urban clusters in the subbasin. Farmland is sparse in the Piedmont, Slate belt, and Sand Hills (mostly woods and forests), but denser in the southeast where the deep, well-drained soils of the Atlantic Southern Loam Plains lie in the watershed (Figure 1; Figure 2). Farmland in Lee and Sumter County (in the Southeastern Loam plains) is mostly dedicated to crops, while those in the northern counties (Fairfield, Lancaster, and Kershaw) have a much higher proportion devoted to pasture and hayland.

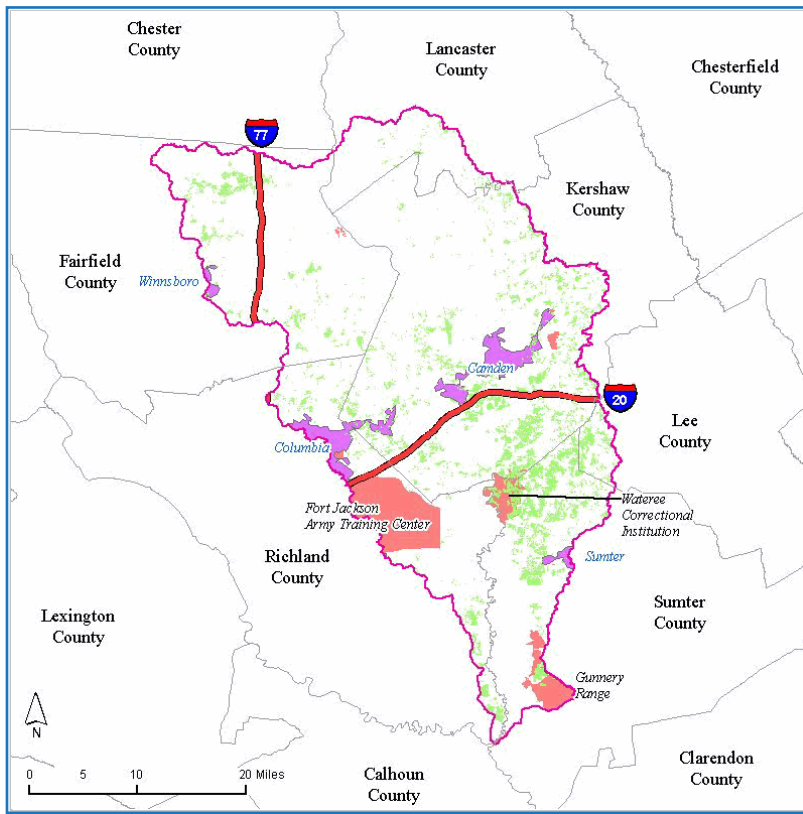


FIGURE 2:
MAJOR LAND USE/LAND COVER
CATEGORIES



Table 1:
MAJOR LAND USE/LAND COVER CATEGORIES

	Acres	% of Watershed
Watershed (Total)	803,750	-
Urban Area	23,929	3%
Parks/Land Under Easement (not NRCS)	42,949	5%
Farm Service Agency Designated Farm Fields	67,668	8%

EXECUTIVE SUMMARY

Table 2:

AGRICULTURAL LAND USE: FSA ACREAGE AND ESTIMATED FARM FIELD USE FROM THE 2002 AG CENSUS

(NASS Whole County Data Used. Cropland includes: Field Crops, Orchards, and Specialty Crops.)

County	FSA Fields (Acres)	% Pasture (Estimated)	% Cropland (Estimated)	% Hayland (Estimated)
Fairfield	8,285	44%	16%	40%
Kershaw	30,484	21%	54%	25%
Lancaster	1,205	37%	22%	41%
Lee	3,129	3%	94%	4%
Richland	5,676	17%	72%	10%
Sumter	18,890	7%	88%	5%

Summary of Resource Concerns

The following is a summary of resource concerns for the watershed. Each resource concern has a more detailed analysis provided in its corresponding section.

EXECUTIVE SUMMARY

Soils

Land capability limitations are dominated by erosion and to a lesser extent by wetness and droughtiness in this subbasin which consists of both Coastal Plain and Piedmont regions. Erosion is the major resource concern in the Piedmont portion of the subbasin and on sloping soils in the Coastal Plain region. Hydric soils comprise 10% of land in the subbasin and only occur in the Coastal Plain portion of the subbasin. Partially hydric soils make up 14% of the subbasin and occur predominantly in the Coastal Plain portion of the subbasin but occur in riparian areas in the Piedmont part of the subbasin. None of the Piedmont area has soils that are all hydric.

Water Quantity

Awaiting SCDNR's 2007 state water assessment.

Water Quality

Various - fecal coliform, phosphorus, turbidity and pH impairments.

Plant Condition

The most prominent crops in the subbasin include corn and wheat for grain and cotton.

Fish, Wildlife, and Native Plants

According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: Biologists have identified habitat protection as one of the most important actions to ensure the protection of South Carolina priority species. Loss and fragmentation of habitat have been identified as a major threat to many of the species listed as threatened and endangered in South Carolina.

Domestic Animals

Livestock populations are limited to a relatively small numbers of grazing animals (cattle, horses). Confined livestock is dominated by the turkey industry, much of which is located in the east or in the extreme west of the subbasin.

Economic and Social Factors

In Lancaster County, there is some pressure from development in the form of single-family homes. As the northern part of the county experiences rapid urbanization, land values and prices are skyrocketing with the result being that some people are moving to the southeastern part of the county.

EXECUTIVE SUMMARY

Progress on Conservation

Table 3:

A SUMMARY OF NRCS APPLIED CONSERVATION TREATMENTS (ACRES)

(See Appendix for NRCS Conservation Practices used for Conservation Treatment Categories.)

(Applied practice data is reported on a fiscal year basis commencing on October 1st)

Conservation Treatments	2004	2005	2006	Total
Buffers and Filter Strips	4	61	7	72
Conservation Tillage	689	38	684	1,411
Erosion Control	657	1,327	1,105	3,089
Irrigation Water Management	-	-	-	-
Nutrient Management	917	2,022	1,585	4,524
Pest Management	1,188	1,506	1,470	4,164
Prescribed Grazing	928	-	281	1,209
Trees and Shrubs	380	79	890	1,349
Wetlands	1,501	660	1,045	3,206
Wildlife Habitat	394	1,079	1,199	2,672

Table 4:

LANDS REMOVED FROM PRODUCTION BY FARM BILL PROGRAMS (WHOLE COUNTY DATA SHOWN)

County	Conservation Reserve Program (ac) 2005	Conservation Reserve Program (ac) 1986 - 2005	Grassland Reserve Program (ac) 2005	Farmland & Ranch Protection Program (ac) 2005	Wetland Reserve Program (ac) 2005
Fairfield	-	0	-	-	-
Kershaw	5,139	136,864	-	-	-
Lancaster	2,061	53,475	-	-	-
Lee	13,138	231,561	-	-	2,490
Richland	358	7,398	-	-	2,171
Sumter	10,246	138,931	83	921	4,649

Table 5:

APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL)

(See SCDHEC 2007 (a) in Reference Section.) - SCDHEC Contact: Matt Carswell - (803) 898-3609

TMDL Document	Number of Stations	Parameter of Concern	Status	WQMS ID Standard Attained
Catawba River & Reservoirs	3	pH, Phosphorus	Under Development	-
Big Wateree Creek	1	Fecal Coliform	Approved & Implementing	-
Big Wateree Creek	1	Turbidity	Approved & Implementing	CW-072
Sawneys Creek	2	Fecal Coliform	Completed & Approved	-
Spears and Kelly Creeks	2	Fecal Coliform	Approved & Implementing	-
Twenty-five Mile Creek	1	Fecal Coliform	Completed & Approved	-

Table 6:

OTHER PLANS, ASSESSMENTS, AND PROJECTS IN THE WATERSHED

Organization	Description	Contact	Telephone
SCDHEC	Watershed Water Quality Assessment: Catawba River Basin (2005)	Carol Copeland	803-898-4203

RESOURCE CONCERNS

Other Watershed Considerations

RESOURCE CONCERNS

Soils

The Wateree subbasin contains two major land resource areas; the Piedmont in the upper part of the subbasin which makes up about 40% of the area and the Coastal Plain in the lower part of the subbasin which comprises the remaining 60% of the subbasin. Erosion is the major resource concern in the Piedmont portion of the subbasin and on sloping soils in the Coastal Plain region (Figure 4). Nearly all of the acreage in the Piedmont portion of the subbasin and about 15% of the acreage in Coastal Plain portion of the subbasin is highly erodible. Almost all of the land along the Wateree River in the Coastal Plain portion of the subbasin is classified as not highly erodible (Figure 4, Table 9). About one-quarter (21%) of the area have limitations due to wetness (Table 7). Most of the wetness occurs in riparian areas in the Coastal Plain (Figure 5, Table 10). Droughtiness is a major concern in another quarter (25%) of the area (Table 7) and occurs mostly in the sandy soils of the Sand Hills (Figure 1). Low soil organic matter in these sandy soils is a soil health concern. Less than half of the land (44%) in the Wateree subbasin is either prime farmland (22%) or statewide important farmland (23%). Most of this land occurs in the Carolina Slate Belt and Atlantic Southern Loam Plains portions of the subbasin (Figure 3, Table 8).

Table 7:

LAND CAPABILITY CLASSES (See NRCS 2007 [a] and [b] in References section.)

Percentages are based on the whole watershed (803,750 ac).

Land Capability Class 1	Acres				Percent	
1 - Slight limitations	17,723				2%	
% Land by Subclass Limitation						
	Erosion (e)		Wetness(w)		Droughtiness (s)	
Land Capability Classes 2-8	Acres	Percent	Acres	Percent	Acres	Percent
2 - Moderate limitations	134,068	17%	37,267	5%	30,294	4%
3 - Severe limitations	92,166	11%	61,482	8%	51,277	6%
4 - Very severe limitations	67,986	8%	17,907	2%	83,470	10%
5 - No erosion hazard, but other limitations	-	-	1,977	0%	-	-
6 - Severe limitations; unsuitable for cultivation; limited to pasture, range, forest	40,833	5%	24,026	3%	19,977	2%
7 - Very severe limitations; unsuitable for cultivation; limited to grazing; forest, wildlife habitat	61,280	8%	23,722	3%	7,965	1%
8 - Miscellaneous areas; limited to recreation, wildlife habitat, water supply	-	-	-	-	100	0%

RESOURCE CONCERNS

Prime Farmland

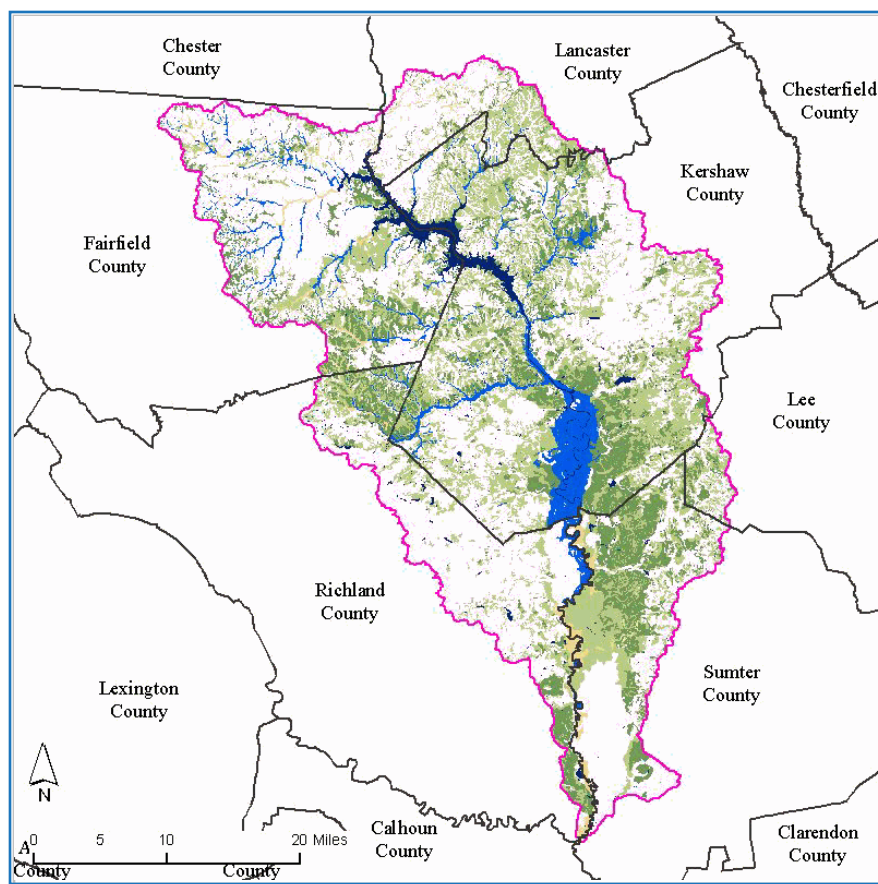


FIGURE 3:
PRIME FARMLAND
(See NRCS 2007 [a] and [b] in
References section.)

Table 8:
PRIME FARMLAND

Prime Farmland Categories	Acres	Percent of Land
All areas are prime farmland	116,988	15%
Farmland of statewide importance	185,855	23%
Not prime farmland	451,167	56%
Prime farmland if drained	271	0%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	12,423	2%
Prime farmland if irrigated	0	0%
Prime farmland if irrigated and drained	0	0%
Prime farmland if protected from flooding or not frequently flooded during the growing season	37,044	5%

RESOURCE CONCERNS

Highly Erodible Land

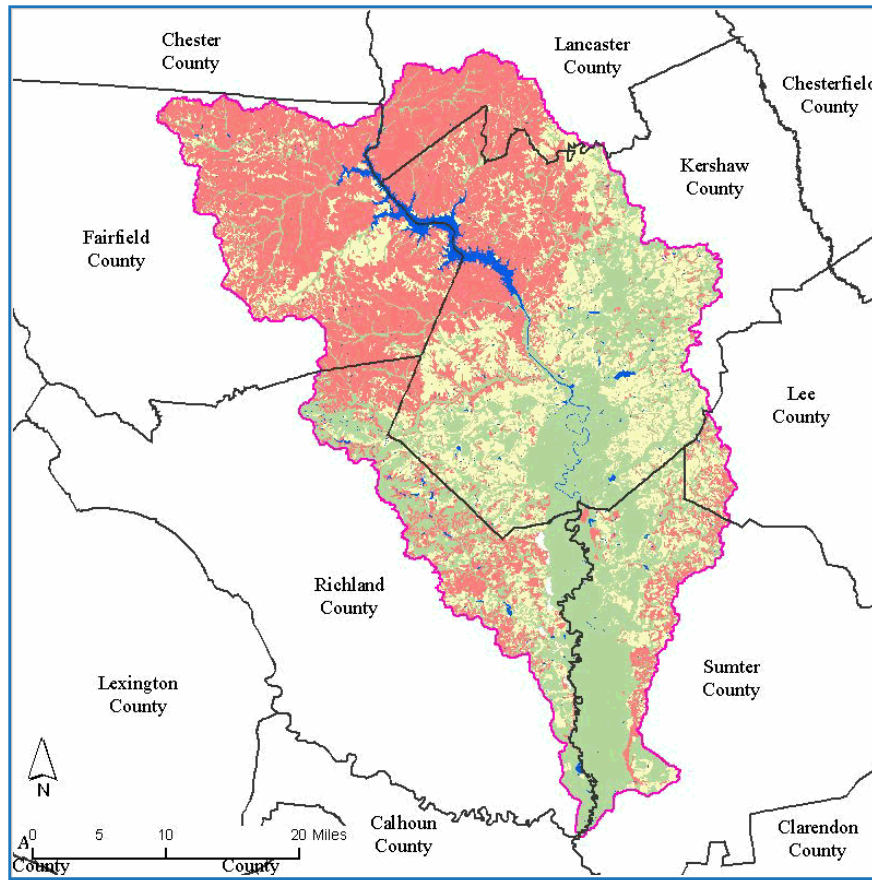


FIGURE 4:
HIGHLY ERODIBLE LAND
(See NRCS 2007 [a] and [b] in
References section.)

Table 9:
HIGHLY ERODIBLE LAND

Highly Erodible Land Categories		Acres	Percent of Watershed
■	Highly erodible land	318,400	40%
■	Not highly erodible land	278,791	35%
■	Potentially highly erodible land	186,519	23%

RESOURCE CONCERNS

Hydric Soils

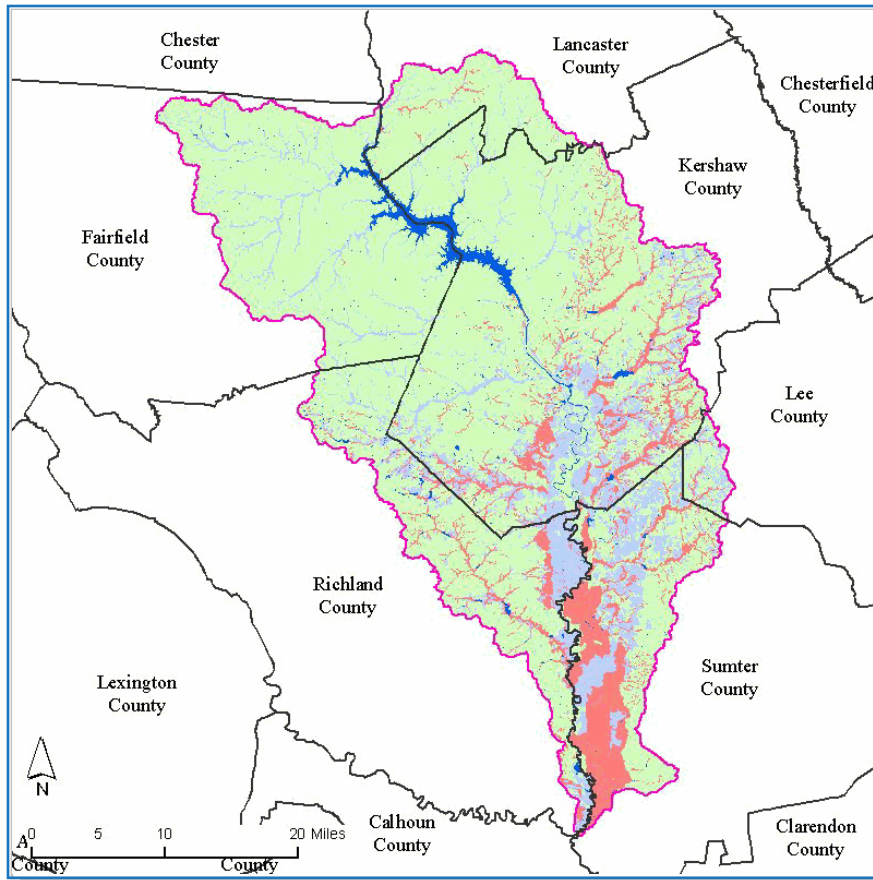


FIGURE 5:
HYDRIC SOILS
(See NRCS 2007 [a] and [b] in
References section.)

Table 10:
HYDRIC SOILS

Hydric Soils Categories	Acres	Percent of Watershed
All Hydric	79,094	10%
Not Hydric	610,322	76%
Partially Hydric	114,333	14%

RESOURCE CONCERNS

Water Quantity

Narrative awaiting SCDNR's new state water assessment.

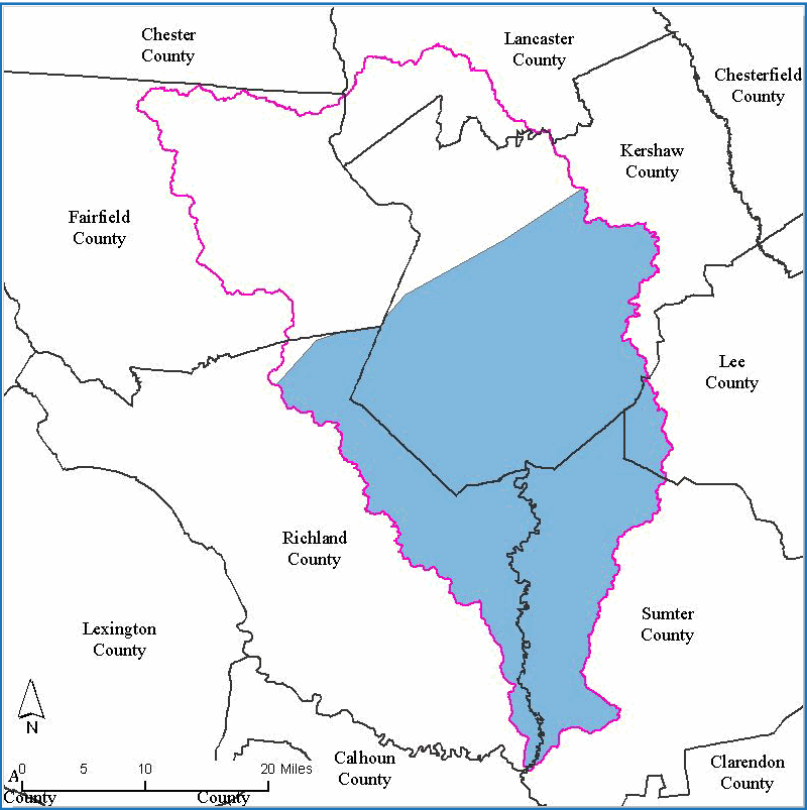





FIGURE 6:
WATERSHED RELATIVE TO CAPACITY
USE AREAS, NOTICE OF INTENT
AREAS, AND CONES OF DEPRESSION

Table 11:
CAPACITY USE, NOTICE OF INTENT, AND CONES OF DEPRESSION AREA IN WATERSHED
(See SCDHEC 2007 [c] and SCDNR 2004 in References Section.)

Area		Percent of Watershed
	% Watershed in Cone of Depression and Capacity Use (CU) Area	0%
	% Watershed in SCDHEC Capacity Use (CU) Area	0%
	% Watershed in SCDHEC Notice of Intent (NOI) Area	60%

RESOURCE CONCERNS

Water Quantity Cont.

Table 12:

INDICATORS OF IRRIGATION WATER USAGE (WHOLE COUNTY DATA ARE USED)

(See NASS 2002 and SCDNR 2004 in References Section)

County	Total Irrigated Water Used MGD	Total NASS Cropland (ac)	Cropland Under Irrigation (ac)	Percent Cropland Under Irrigation	Water Use Gal/Ac/Day for Irrigated Land
Fairfield	2.46	16,750	250	1.5	9,840
Kershaw	0.45	23,510	903	3.8	498
Lancaster	0.95	31,049	443	1.4	2,144
Lee	0.77	84,966	1,072	1.3	718
Richland	1.77	25,073	516	2.1	3,430
Sumter	13.18	85,223	5,537	6.5	2,380

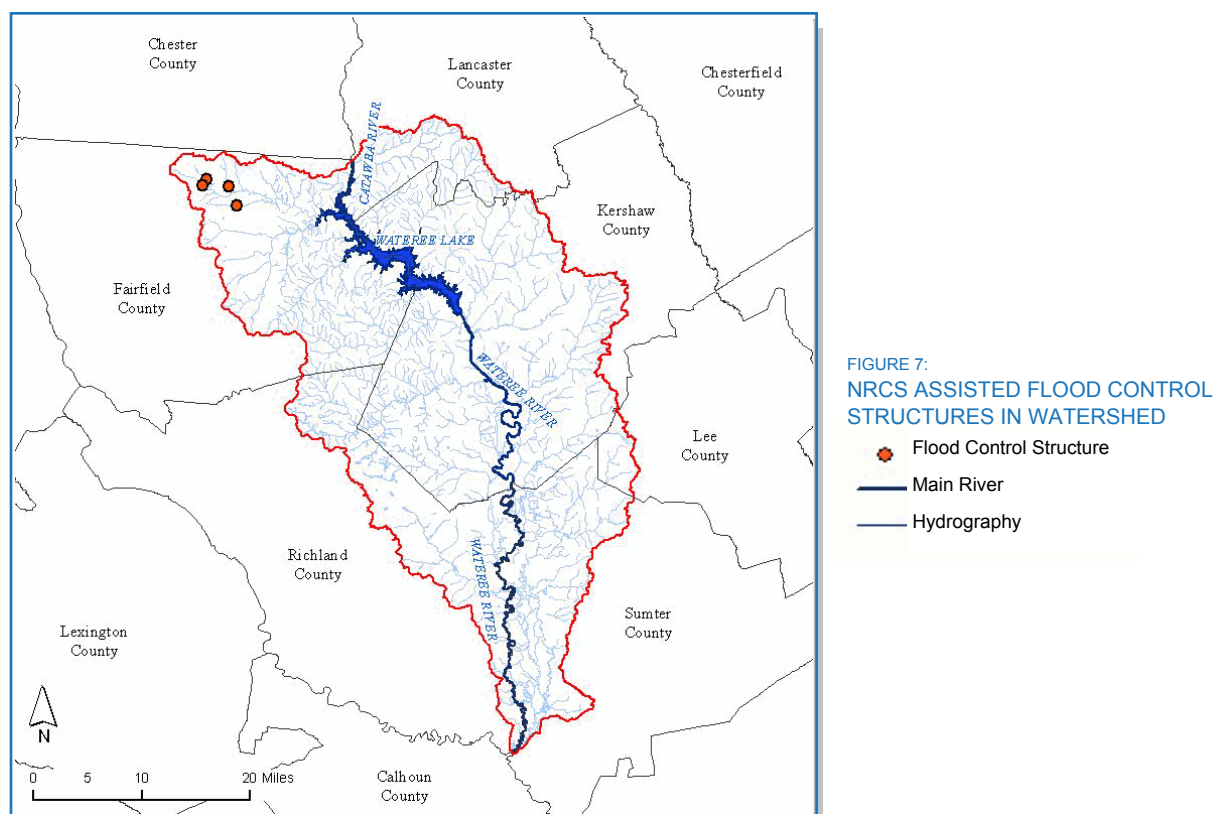


Table 13:

NRCS IMPLEMENTED FLOOD CONTROL STRUCTURES

Number of Structures (in Watershed)	Maximum Storage (AcFt)	Number of Structures by Hazard Class			
		High	Low	Significant	Unclassified
4	6,518	0	4	0	0

RESOURCE CONCERNS

Water Quality

The number of surface water quality impairments is shown in Table 15 resulting in a "303(d)" listing of that Water Quality Monitoring Site (WQMS). Table 5 indicates what progress has been made to address surface water quality through the Total Maximum Daily Load (TMDL) process. Once a TMDL plan is approved, the WQMS is removed from the 303(d) list even though the standard may not have been attained. Note that standards for total nitrogen, total phosphorus, and chlorophyll-a only exist for lakes; therefore, no stream in the state can be listed for any of these three parameters.

Some fecal coliform, phosphorus and turbidity concerns will be addressed through ongoing TMDLs (Table 5). The other primary water quality concern is pH impairments (Table 15).

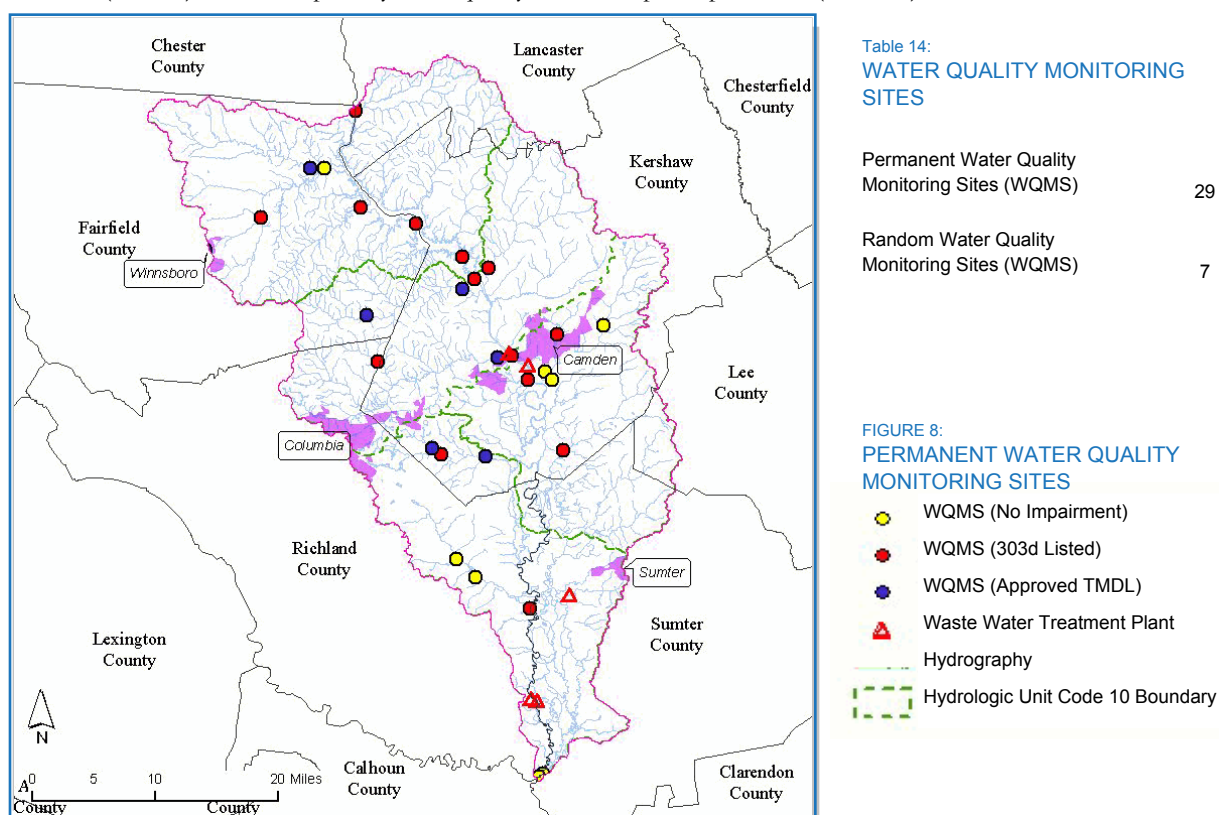


Table 15:

NUMBER OF MONITORING SITES SHOWING SURFACE WATER QUALITY IMPAIRMENTS

(See SCDHEC 2006 in References for the state 303(d) list.)

Recreational Use Standard

Parameter	Impairments
Fecal Coliform	5

Fish Tissue Standard

Parameter	Impairments
Mercury	4
PCB's	0

Shellfish Harvest Standard

Parameter	Impairments
Fecal Coliform	NA

Aquatic Life Use Standard

Parameter	Impairments
Biological	1
Chlorophyll A	1
Chromium	0
Copper	1

Parameter	Impairments
Dissolved Oxygen	6
Ammonia Nitrogen	0
Nickel	0
Total Nitrogen	0

Parameter	Impairments
Total Phosphorus	7
pH	7
Turbidity	2
Zinc	0

RESOURCE CONCERNS

Plant Condition

Plants of Economic Importance

Plants of economic importance are shown in Table 16. The crops shown in this table are from NASS data where the top five crops, by acres, in each county are displayed. Timber statistics (see Clemson Extension Forest Services 2003 in References) indicate the relative importance of the timber industry within the state and the importance of the timber industry compared to agriculture within the county.

The most prominent crops in the subbasin include corn and wheat for grain and cotton.

Native Plant Species

According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: the Piedmont ecoregion plant community historically consisted of oak and hickory-dominated forest with associated tree species varying by slope and soil moisture. This was the primary potential vegetation type in the Piedmont. Due to land disturbances however, today the majority of these sites exist mostly in closed canopy pine-dominated forests.

In the sandhills, plants are a complex of xeric pine and pine-hardwood forest types adapted to sandy soils, typically found fluvial sand ridges. Historically, a canopy of longleaf pine and a sub canopy of turkey oak prevail, this was interspersed with scrub oak species and scrub-shrub cover. Management that includes burning encourages the development of longleaf pine-wiregrass communities.

Upland areas consist of forests dominated by hardwoods, primarily with oaks and hickories, and typically on fire-suppressed upland slopes near river floodplains or between rivers and tributaries. Vegetation composition is similar to oak-hickory forest in the Piedmont, where it is a major vegetation type. Representative canopy trees are: white oak (*Quercus alba*), black oak (*Quercus velutina*), post oak (*Quercus stellata*), mockernut hickory (*Carya tomentosa*), pignut hickory (*Carya glabra*), loblolly pine (*Pinus taeda*), flowering dogwood (*Cornus florida*), and black gum (*Nyssa sylvatica*).

In the river bottoms on the coastal plains, one frequently finds hardwood-dominated woodlands with moist soils that are usually associated with major river floodplains and creeks. Characteristic trees include: sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), laurel oak (*Quercus laurifolia*), cherrybark oak (*Quercus pagoda*), and American holly (*Ilex opaca*).

RESOURCE CONCERNS

Table 16:

WHOLE COUNTY DATA OF PLANTS OF ECONOMIC IMPORTANCE IN SUBBASIN

(See: USDA NASS 2002 & Clemson University Forest Extension Services 2003 in References section)

Plant	Counties
All Cotton	Richland, Sumter, Lee
All Wheat for grain	Richland, Lee, Sumter, Fairfield, Lancaster, Kershaw
Corn for grain	Lee, Lancaster, Fairfield, Kershaw, Sumter, Richland
Cut Christmas trees	Fairfield
Forage - land used for all hay and haylage, grass silage, and greenchop	Lancaster, Fairfield, Kershaw, Lee, Richland, Sumter
Short-rotation woody crops	Lancaster, Kershaw, Fairfield
Soybeans	Sumter, Lee, Lancaster, Kershaw, Richland
Timber, Top 10 Rank in SC	Fairfield
Timber Revenues Exceed Ag. Revenues	Fairfield, Richland

Table 17:

FEDERALLY LISTED THREATENED AND ENDANGERED PLANT SPECIES IN WATERSHED

(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Georgia aster	<i>Aster georgianus</i>	Supported Proposals to List
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Endangered
Rough-leaved loosestrife	<i>Lysimachia asperulaefolia</i>	Endangered
Little amphianthus	<i>Amphianthus pusillus</i>	Threatened
Smooth coneflower	<i>Echinacea laevigata</i>	Endangered
Chaff-seed	<i>Schwalbea americana</i>	Endangered
Canby's dropwort	<i>Oxypolis canbyi</i>	Endangered
Black-spored quillwort	<i>Isoetes melanospora</i>	Endangered
Michaux's sumac	<i>Rhus michauxii</i>	Endangered

RESOURCE CONCERNS

Fish and Wildlife

For additional information, the SC Department of Natural Resources has completed a "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section).

In 2005, mercury advisories were issued for 57 water bodies in South Carolina. Higher concentrations of mercury in fish tissue tend to occur in the Coastal Plain of South Carolina with relatively lower concentrations (and therefore fewer advisories) in the Piedmont. For more details on fish advisories, please refer to the SCDHEC fish advisory website at:

<http://www.scdhec.gov/environment/water/fish/>

Table 18:

FEDERALLY LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES IN WATERSHED

(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered

Table 19:

FEDERALLY LISTED THREATENED AND ENDANGERED AQUATIC SPECIES IN WATERSHED

(See USFW 2006 in References section.)

Common Name	Latin Name	Status
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Endangered
Carolina heelsplitter	<i>Lasmigona decorata</i>	Endangered

ECONOMIC & SOCIAL FACTORS

Domestic Animals

Grazing livestock populations are modest (Table 20). Confined livestock is dominated by the turkey industry (Figure 9, Table 21), much of which is located in the east (Kershaw County) or in the extreme west (Newberry County) of the subbasin.

Table 20:

WHOLE COUNTY GRAZING ANIMAL POPULATION DATA FROM 2002 AG. CENSUS

(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Cows/Calves	Grazing/Forage (ac)	County Rank in State
Fairfield	6,009	7,310	25
Kershaw	4,886	4,965	(D)
Lancaster	12,520	11,433	11
Lee	3,265	2,313	(D)
Richland	2,771	4,313	16
Sumter	5,680	6,023	32

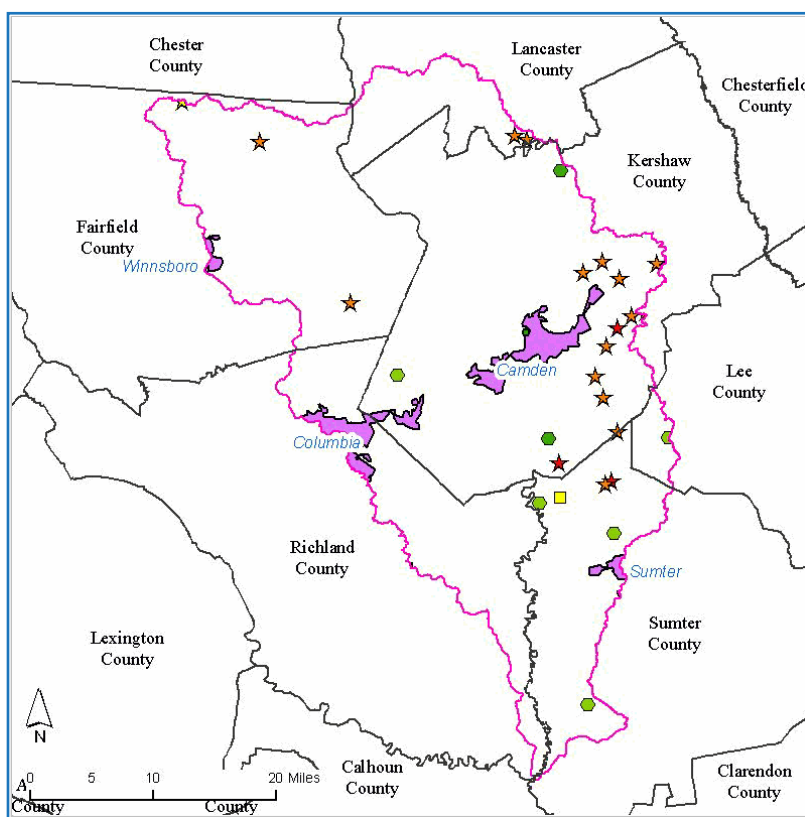


Table 21:

CONFINED ANIMAL POPULATION [As given by SCDHEC] (Au = Animal Unit = 1,000 lbs)

Beef Live Weight (Au)	-
Dairy Live Weight (Au)	420
Horse Live Weight (Au)	10
Poultry Live Weight (Au)	1,565
Swine Live Weight (Au)	-
Turkey Live Weight (Au)	16,779

FIGURE 9:
TYPE AND SIZE OF CONFINED
ANIMAL OPERATION

Permit Design Count (Live Weight AU)	
0 - 163	Beef
164 - 372	Dairy
373 - 680	Other
681 - 1360	Poultry
1361 - 7076	Swine
	Turkey

* Weighted averages are estimated based on agricultural land use area.

ECONOMIC & SOCIAL FACTORS

The number of full-time farmers and average farm sizes are similar to the state averages of 47% and 197 acres, respectively (Table 22), suggesting average expected levels of participation in conservation programs in the subbasin. Farm sizes decreased by an estimated 24% between 1997 and 2002, whereas on average farm sizes decreased by 13% across the state for the same period. Loss of cropland between 1997 and 2002 is estimated at 10%, higher than the SC average of 8%.

The relative importance of crop and livestock commodity groups in the watershed is shown in Tables 24 and 25; a *qualitative* indication of the relative importance of timber is provided on Table 16.

For more economic and farm information from the 2002 Agricultural Census, more detailed reports for all South Carolina counties can be found at:

<http://www.nass.usda.gov/census/census02/profiles/sc/index.htm>

Table 22:

2002 FARM CENSUS DATA (WHOLE COUNTY DATA SHOWN) (SC average farm size = 197 ac)

County	Total Number of Farms	% Full Time Farmers	% Farms > 180 (ac)	Average Farm Size (ac)
Fairfield	237	38%	38%	238
Kershaw	479	46%	18%	146
Lancaster	637	48%	18%	128
Lee	324	42%	39%	378
Richland	429	43%	21%	148
Sumter	537	46%	28%	253
Weighted Avg*	458	45%	25%	198

Table 23:

2002 FARM CENSUS ECONOMIC DATA (WHOLE COUNTY DATA SHOWN) (Results in \$1,000)

County	Market Value of Ag Products Sold	Market Value of Crops Sold	Market Value of Livestock, Poultry, and Their Products	Farms with sales < \$10,000
Fairfield	16,307	752	15,555	192
Kershaw	84,475	2,081	82,394	379
Lancaster	45,710	1,660	44,050	532
Lee	33,675	10,413	23,262	233
Richland	6,706	-	-	362
Sumter	55,146	15,274	39,872	402
Weighted Avg*	58,546	5,857	52,152	357



REFERENCES

Table 24:

VALUE OF CROP COMMODITY GROUPS - COUNTY RANK IN STATE

(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of All Crops	Grains & Oilseeds	Tobacco	All Cotton	Vegetables & Melons	Fruits, Nuts, & Berries	Nursery, Etc.	Christmas Trees & Woody Crops	Hay & other Crops
Fairfield	44	44	-	-	(D)	-	(D)	2	29
Kershaw	38	27	-	(D)	24	(D)	30	(D)	14
Lancaster	41	36	-	-	35	(D)	(D)	15	18
Lee	20	6	10	6	34	(D)	32	(D)	11
Richland	(D)	18	(D)	(D)	36	23	23	6	(D)
Sumter	16	4	8	11	(D)	(D)	15	(D)	2

Table 25:

VALUE OF LIVESTOCK AND POULTRY COMMODITY GROUPS - RANK IN STATE

(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of Livestock, poultry	Poultry, Eggs	Cattle & Calves	Milk & Dairy	Hogs & Pigs	Sheep & Goats	Horses, etc.
Fairfield	20	17	25	(D)	44	39	(D)
Kershaw	1	1	(D)	(D)	(D)	29	2
Lancaster	8	6	11	20	43	15	19
Lee	14	13	(D)	(D)	(D)	44	39
Richland	(D)	35	16	-	31	43	(D)
Sumter	11	8	32	(D)	16	19	(D)

REFERENCES

- Clemson University Extension Forest Service. 2001. *Cash Receipts from Timber Harvests - 2001 Ag and Timber Comparison*. Compiled by A. Harper. Available at:
http://www.clemson.edu/extfor/forest_data/
- Griffith, G.E., Omernik, J.M., Comstock, J.A., Schafale, M.P., McNab, W.H., Lenat, D.R., MacPherson, T.F., Glover, J.B., and Shelburne, V.B., 2002, Ecoregions of North Carolina and South Carolina, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000). Available at:
http://www.epa.gov/wed/pages/ecoregions/ncsc_eco.htm
- National Resource Inventory (NRI) 1997. Estimates of water erosion from Cropland by 8-digit HUC. Available at:
<http://www.nrcs.usda.gov/technical/land/erosion.html>
- NatureServe 2006. Distribution of native fish species by watershed. NatureServe. Available at:
<http://www.natureserve.org/getData/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2006. Listing of Impaired Waters (or 303(d) list). Available at:
http://www.scdhec.gov/environment/water/docs/06_303d.pdf
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (a). Total Maximum Daily Load Documents. Available at:
<http://www.scdhec.gov/environment/water/tmdl/tmdlsc.htm>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (b). Watershed Water Quality Assessments. Available at:
<http://www.scdhec.gov/environment/water/shed/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (c). Water use and reporting Program (Capacity Use) SCDHEC. Available at:
<http://www.scdhec.net/environment/water/capuse.htm>
- South Carolina Department of Natural Resources (SCDNR) 2005. Comprehensive Wildlife Conservation Strategy (2005 - 2010). Columbia, SC. SCDNR. Available at:
<http://www.dnr.sc.gov/cwcs>
- South Carolina Department of Natural Resources (SCDNR) 2002. SC GAP Analysis and Dynamic Mapping. Columbia, SC. SCDNR. Available at:
<http://www.dnr.sc.gov/GIS/gap/mapping.html>
- South Carolina Department of Natural Resources (SCDNR) 2004. South Carolina Water Plan, Second Edition (January 2004). Columbia, SC. SCDNR. Available at:
<http://www.dnr.sc.gov/water/hydro/wtrplanerrata.html>
- USDA Farm Services Agency in South Carolina (FSA-SC) 2006. CRP Data. Columbia SC. USDA/FSA
- USDA Natural Resources Conservation Services (NRCS) 2007 (a). National Soil Information System (NASIS). USDA/NRCS. County Soils Data (tabular) information available at:
<http://soildatamart.nrcs.usda.gov/>

APPENDIX

USDA Natural Resources Conservation Services (NRCS) 2007 (b). Soil Survey Geographic (Ssurgo) Database. USDA/NRCS. County Soils Data (spatial). Available at:
<http://soildatamart.nrcs.usda.gov/>

USDA Natural Resources Conservation Services in South Carolina (NRCS-SC) 2006. GRP, FRPP, and WHP. Columbia, SC. USDA/NRCS.

USDA National Agricultural Statistical Service (NASS) 2002. 2002 Census of Agriculture. Washington, DC: USDA/NASS.

US Fish and Wildlife Service (USFWS) 2007. USFWS Threatened and Endangered Species System (TESS). Available at:
http://ecos.fws.gov/tess_public/StartTESS.do

US Fish and Wildlife Service (USFWS) 2006. South Carolina Distribution Records of Endangered, Threatened, Candidate and Species of Concern, October 2006. Available at:
http://www.fws.gov/charleston/docs/etcountylist_10_06.htm

APPENDIX

Level III Common Resource Area (Ecological Region) Descriptions

Piedmont (45)

The Piedmont is an erosional terrain with some hills; the soils are generally finer-textured than those found in coastal plain regions with less sand and more clay. Piedmont soils are moderately to severely eroded; most of this region is now in planted pine or has reverted to successional pine and hardwood woodlands, with some pasture; spreading urban- and suburbanization is apparent. The Piedmont of South Carolina is divided into five level IV ecoregions: Southern Inner Piedmont (45a), Southern Outer Piedmont (45b), Carolina Slate Belt (45c), Triassic Basins (45g) and Kings Mountain (45i).

Southeastern Plains (65)

The Southeastern Plains are irregular with broad interstream areas have a mosaic of cropland, pasture, woodland, and forest. In the past centuries, human activities (logging, agriculture and fire suppression) removed almost all of the longleaf pine forests. Elevations and relief are greater than in the Southern Coastal Plain (75), but generally less than in much of the Piedmont (45). The ecoregion has been divided into three level IV ecoregions within South Carolina: Sand Hills (65c), Atlantic Southern Loam Plains (65l), and Southeastern Floodplains and Low Terraces (65p). Note: The Atlantic Southern Loam Plains (65l) is a major agricultural zone, with deep, well-drained soils, and is characterized by high percentages of cropland.

NRCS Conservation Practices used for Conservation Treatment Categories in Table 3

Report Category	Practice Codes
Buffer and Filter Strips	332, 391, 393, 412
Conservation Tillage	324, 329, 329A, 329B, 344, 484
Erosion Control	327, 328, 330, 340, 342, 561, 585, 586
Irrigation Water Management	441, 449
Nutrient Management	590
Pest Management	595
Prescribed Grazing	528, 528A
Trees and Shrubs	490, 612, 655, 656, 66
Wetlands	657, 658, 659
Wildlife Habitat	644, 645

APPENDIX

Hydrologic Unit Numbering System

In 2005, the NRCS in cooperation with the U.S. Geological Survey, the South Carolina Department of Health and Environmental Control, and the U.S. Forest Service updated the South Carolina part of the USGS standard hydrologic unit map series. The report, "Development of a 10- and 12- Digit Hydrologic Unit Code Numbering System for South Carolina, 2005", describes and defines those efforts. The following is from the Abstract contained in that report: "A hydrologic unit map showing the subbasins, watersheds, and subwatersheds of South Carolina was developed to represent 8-, 10-, and 12-digit hydrologic unit codes, respectively. The 10- and 12-digit hydrologic unit codes replace the 11- and 14-digit hydrologic unit codes developed in a previous investigation. Additionally, substantial changes were made to the 8-digit subbasins in the South Carolina Coastal Plain. These modifications include the creation of four new subbasins and the renumbering of existing subbasins." The report may be obtained at http://www.sc.nrcs.usda.gov/technical/HUC_report.pdf. See Table 2 in the report for a cross-reference of old to new 8-digit HUC.

This subbasin profile uses the new HUC 8 numbering system with its modified and newly created subbasins. The NRCS reports implemented practices by 8-digit Hydrologic Unit Code. All NRCS reported Conservation Practices were reported using the older numbering system. 2005 and 2006 data were converted to the new HUC 8 numbering system through the Latitude and Longitude data reported with the applied practice. The use of these differing numbering systems has resulted in some NRCS implemented practices being credited in this report to an 8-digit HUC as reported by the NRCS but not correctly credited in the new numbering system. Likewise, the newly created 8-digit HUC will not be credited with the 2004 applied practices.